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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/309,868	09/21/1994	HIDENARI YASUI	28	6704

7590 03/30/2005

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EXAMINER

BECKER, DREW E

ART UNIT	PAPER NUMBER
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1761

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/309,868	YASUI ET AL.	
	Examiner	Art Unit	
	Drew E Becker	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5, 11, 12, 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5, 11, 12, 15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 2-5, 11-12, and 15-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S.

Patent No. 6,086,766 in view of Smith et al [Pat. No. 3,591,491]. It would have been obvious to one of ordinary skill in the art to withdraw the liquid phase and convert a high amount of biosludge into BOD components, as taught by Smith et al (column 7, lines 33-36; Figure 1, #60), since producing cleansed water was the nearly universal goal of waste treatment methods and since Smith et al teach that converting a high amount of biosludge into BOD components, and recycling the BOD components back into the process, resulted in a much lower amount of excess sludge (column 7, lines 33-36).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 5, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al [Pat. No. 3,591,491] in view of JP 360118299A.

Smith et al teach a method of treating waste by aerating an organic waste into an aeration tank in the presence of aerobic microorganisms (Figure 1, #29), separating the suspension into a sludge and liquid phase (Figure 1, #32), withdrawing the liquid phase as treated water (Figure 1, #60), recycling at least a portion of the sludge back to the aeration tank (Figure 1, #45), ozonizing the sludge (Figure 1, # 49; column 6, line 58), recycling the ozonized sludge back to the aeration chamber (Figure 1, #45), optimizing flow levels and amounts to reduce excess solids (column 6, lines 30-34; column 7, lines 11-25), and converting 55-65% of the biosludge into BOD components (column 7, lines 33-36) thus reducing the amount of generated excess sludge to less than the amount of BOD components recycled back into the process. Smith et al do not recite a pH of 5 or less created by an agent. JP 360118299A teaches a process for treating waste by ozonizing at a pH of 3-6, which is due to the addition of an acid (abstract). It would have been obvious to one of ordinary skill in the art to incorporate the pH level of JP 360118299A into the invention of Smith et al since both are directed to methods of

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treating waste, since Smith et al already included an ozonizing step but simply did not mention the pH level (column 6, line 58), and since JP 360118299A teaches that waste was commonly and effectively ozonized at a pH of 3-6 (abstract).

5. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al, in view of JP 360118299A, as applied above, and further in view of JP 404225900A.

Smith et al and JP 360118299A teach the above mentioned concepts. Smith et al and JP 360118299A do not recite anaerobic acidogenesis and heating to 50-100°C. JP 404225900A teaches a method of treating waste by heating sludge to 30-60° and anaerobic acidogenesis (abstract). It would have been obvious to one of ordinary skill in the art to incorporate the heating and anaerobic acidogenesis of JP 404225900A into the invention of Smith et al, in view of JP 360118299A, since all are directed to methods of treating waste, since Smith et al already microbial digestion (Figure 1, #29 & 61), since JP 360118299A already included adjusting the pH to 3-6 (abstract), since the anaerobic acidogenesis of JP 404225900A would have eliminated the need to add an acid as done by JP 360118299A, and since many types of anaerobic bacteria were more active at elevated temperatures, such as those taught by JP 404225900A.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al, in view of JP 360118299A, as applied above, and further in view of Dorau et al [Pat. No. 5,362,395].

Smith et al and JP 360118299A teach the above mentioned concepts. Smith et al and JP 360118299A do not recite a membrane separation unit. Dorau et al teach a method

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of treating waste by use of a membrane separation unit (abstract). It would have been obvious to one of ordinary skill in the art to incorporate the membrane separation of Dorau et al into the invention of Smith et al, in view of JP 360118299A, since all are directed to methods of treating waste, since Smith et al already included a separation step (Figure 1, #32), and since membrane separation was a commonly practiced means of separating waste sludge and liquid as taught by Dorau et al (abstract).

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al, in view of JP 360118299A, as applied above, and further in view of Lowther [Pat. No. 4,178,239].

Smith et al and JP 360118299A teach the above mentioned concepts. Smith et al and JP 360118299A do not recite ozonizing the aerated suspension. Lowther teaches a method of treating waste by ozonizing the aerated suspension (Figure 1). It would have been obvious to one of ordinary skill in the art to incorporate the ozonizing of Lowther into the invention of Smith et al, in view of JP 360118299A, since all are directed to methods of treating waste, since Smith et al already included ozonizing (Figure 1, #49), and since Lowther teaches that ozonizing the aerated suspension provided improved overall sewage removal (column 4, lines 14-40).

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al, in view of JP 360118299A and Dorau et al, as applied above, and further in view of Lowther [Pat. No. 4,178,239].

Smith et al, JP 360118299A, and Dorau et al teach the above mentioned concepts.

Smith et al, JP 360118299A, and Dorau et al do not recite ozonizing the aerated

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suspension. Lowther teaches a method of treating waste by ozonizing the aerated suspension (Figure 1). It would have been obvious to one of ordinary skill in the art to incorporate the ozonizing of Lowther into the invention of Smith et al, in view of JP 360118299A and Dorau et al, since all are directed to methods of treating waste, since Smith et al already included ozonizing (Figure 1, #49), and since Lowther teaches that ozonizing the aerated suspension provided improved overall sewage removal (column 4, lines 14-40).

Response to Arguments

9. Applicant's arguments filed January 31, 2005 have been fully considered but they are not persuasive.

Applicants argue that Smith et al do not recite converting biosludge into BOD components in an amount greater than the amount of generated excess sludge. However, Smith et al teach converting and recycling 55-65% of the sludge into BOD components (column 7, lines 33-36) thus producing an amount of BOD components in excess of the generated excess sludge.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the total elimination of excess sludge) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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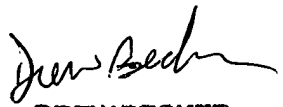
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Drew E Becker whose telephone number is 571-272-1396. The examiner can normally be reached on Mon.-Thur. 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Drew E Becker
Primary Examiner
Art Unit 1761


DREW BECKER
PRIMARY EXAMINER
3-28-05